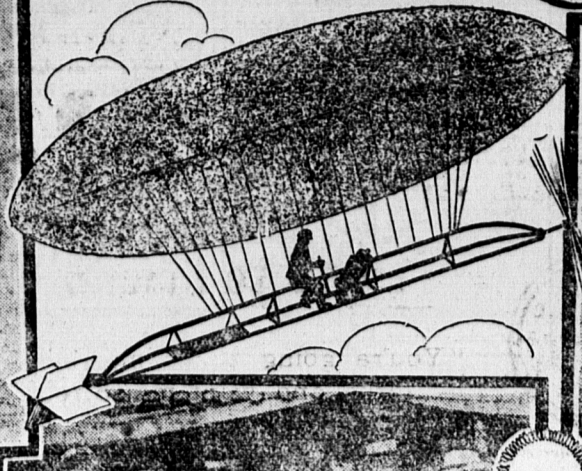


# CONQUERING THE AIR

BY D. D. ADAMS



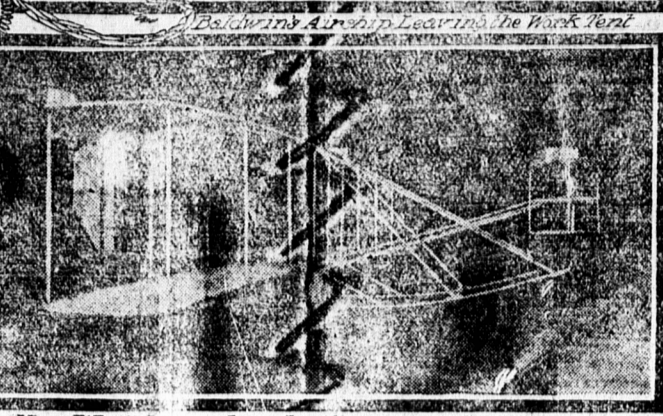
Dirigible Airship in Flight



Baldwin's Airship Leaving the Barge



Pioneers in Air Navigation



The New Wright Airplane Built for the U.S. Government

**A** last man has learned to fly! Through all the bewildering descriptions of various devices that enable their inventors to float, drift, steer and even steam through the atmosphere, there can be put down as absolutely certain that one great, illuminating era-creating fact: Man has learned to fly!

Yet it will be many years undoubtedly before mankind in anything approaching large numbers betake themselves to the atmosphere for business or for pleasure. The problem now remaining is one of vast improvement in every respect, but it is, after all, merely a matter of engineering, and the best experts are the most hopeful as regards the nearness of the time when practical air machines will be open for public service.

## WRIGHT BREAKS ALL RECORDS.

When the epoch-making flights by Orville Wright at Fort Myer are considered, it must be evident to the man in the street, that the heavier-than-air machine is an accomplished fact. When Wright sailed in the atmosphere for over an hour, not once, but many times, and at a rate exceeding forty miles an hour, the most skeptical were convinced that man had actually conquered the air and had learned to fly.

So practical is this certainty now, that already the army authorities have prepared a bill which calls for doubling the signal corps of the United States Army, and now is demanded solely because they must have men to learn how to operate flying machines as well as to fight them. Wright and his aeroplane are historic, just like Stephenson and the first steam locomotive, Fulton with his steamboat, and Morse with Alexander Bell on the telegraph and telephone inventions.

For the future flying machine—big in size, certain in its ability to keep aloft and to reach indefinite destinations—mankind must wait. The present offers only

most intensely interesting flying machines which are small in size and by no means perfected in their machinery or details.

For 19 years Germany, France and England have been publicly and as governments interested in the construction of primitive flying machines and machinery. This government, however, has only within the present year stepped into the arena and given its aid to the private inventors who were struggling with the problem of aerial navigation.

Two men and two widely divergent types of air machines have attracted the national government. Both the man and the machinery have been able to astonish the government experts and to fulfill the promises they made to the army engineers.

## UNITED STATES BUYS AN AIRSHIP.

Orville Wright and Capt. Thomas P. Baldwin are the two men to whom the United States government said: "Build us a practical flying machine that will do such and such work, go at such and such a speed and stay in the air for so long a time." The terms were made just as the government and the inventor agreed to in providing for a torpedo boat destroyer.

And both Orville Wright and Captain

Baldwin have made good. As a result the United States government has at last gone into the airship business and owns an airship. Just what this may mean, only the next great war will show. But one thing is absolutely certain.

If the next big war broke out tomorrow airships of some sort or other would play a vastly important part in that terrible struggle. Added to the horrors of frightful explosives of unheard-of destructiveness, to artillery so deadly and long-ranged that a hand-to-hand battle would seem to be an impossibility for mere human strength and blood, the next war will be fought, not only on the ground and under ground, but in the air as well.

From the atmosphere will descend the thunder of explosives and airships of some design or other will threaten the antlike armies of men down on the earth's surface with unmerciful, unseen and yet certain death.

The group photograph shows, reading from left to right, Captain Baldwin; Orville Wright and his chief assistant, Lieutenant Folsom; and Lieutenant Selby, of the United States Signal Corps; Augustus Post, of New York; Secretary of the Aero Club of America, and

Lincoln Beachey. The photograph was taken in the government balloon tent at Fort Myer.

Now for the still disputed question among the great masses of the population: Can aeroplanes fly? They can.

## BALDWIN'S DIRIGIBLE SUCCESSFUL.

Baldwin's dirigible balloon and the Wright Brothers aeroplane form the two diverging lines along which the date of the flight problem has been attacked. Baldwin's machine, like that exhibited by the Beachey Brothers, is merely a clear-shaded bag of gas to which is attached a wire framework, a marvelously light and extremely powerful gasoline motor and a framework with a small platform for which Captain Baldwin or the other operators can sit and handle the machinery.

The photographs of Captain Baldwin's airship show that it is an enormous affair. The gas bag is made of some specially prepared material which Baldwin claims is superior to any building quality to any other ever produced. It showed up well in the trials made in August and in September.

The motor used by Captain Baldwin worked fairly well, but it is considered possible by army engineers to improve over the present decidedly crude airship engine. Now, however, that the United States has taken the matter seriously, and actually paid Captain Baldwin for a practical airship, it should not long before the government itself will turn out far better specimens of dirigible than the first one the government has ever owned.

The marvelous flights of Count Zeppelin appear to show that as far as dirigible are concerned Germany now holds the record. It is, therefore, to Orville Wright the inventor and bold and successful creator of the Wright Brothers' aeroplane that the United States must look for ability to lead the world in the conquest of the air.

Orville Wright's aeroplane is a heavy-than-air flying machine. It has nothing to do with balloons or balloons. It introduces an entirely new method of navigating the atmosphere, and is considered fairly certain that the machine contained in its construction a practical and practical domination of the air.

## WRIGHT'S MACHINE WORKS MIRACLES.

The engine (which after all, counted much in Wright's struggle to obtain practical working ship) is built along the same lines as the finest four-cylinder motors to be found in the highest priced automobiles. Wright's engine is built of specially light and strong materials, and a develop enormous horsepower.

It revolves the propellers at such a enormous rate of speed that a practical vacuum is created ahead of the aeroplane, while behind is a hurricane of air violence that man have been knocked flat just from the air waves created by the machine.



Baldwin's Dirigible Beginning 17-Mile Flight from Fort Myer

man. The splendid photographs shown of this marvelous machine gives an exact idea of how it appeared in the construction tent at Fort Myer, across the Potomac River from Washington, the day the inventor announced that it was completed and he himself was ready to fly through the air.

The dirigible balloon merely floats in the air just as a ship floats on the ocean because of its lighter specific gravity as compared with the amount of air it displaces. It floats and is driven through the atmosphere by light and strong engines which work propellers of huge size, but acting on the same principles as the screw attached to an ordinary steam vessel.

But Orville Wright claims, and has proven by actual trials, that his aeroplane can do more than float—it can actually fly. And its motions more closely resembled those of some gigantic flying fish than in inanimate object. The real secret of success in Wright's aeroplane lies in his manipulation of the planes, which, by special machinery, he contracts or expands so that the action of the air as the engine forces the airship through the atmosphere guides the machine up or down, while the rudder answers for the airship's lateral motions—the right or left.

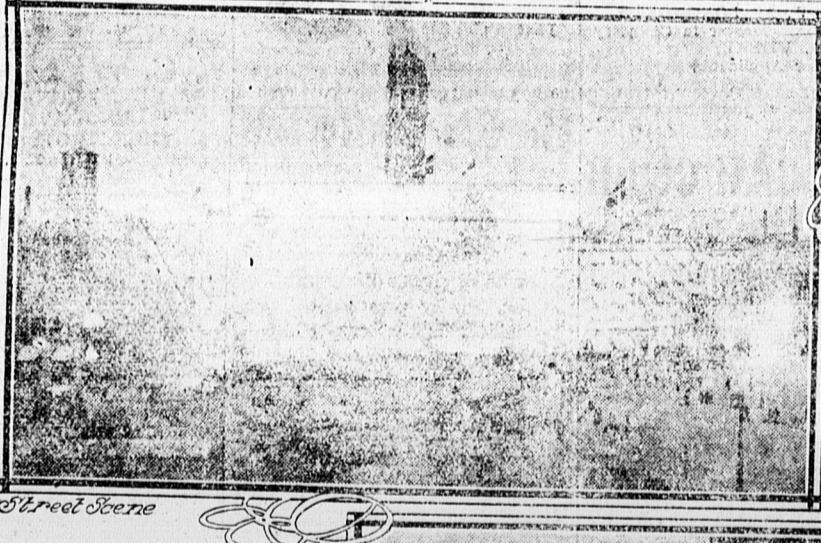
These planes are held together by very strong but light piano wire—the same as is used in pianos to produce the various notes of the musical scale. The steel frame work of the machine is light and extremely light.

## AEROPLANE CONSTRUCTION SIMPLE.

Wright's aeroplane is seen just as stood when completed. Its planes are clearly visible, as is also the platform and its axle propeller, to which is attached the powerful four-cylinder motor. The various parts of machine which reverse the motor, elevate or depress the planes, etc., are so close to the hand of the operator, Wright's machine so well under control, so delicately balanced that he was able to change its direction and merely by shifting his own weight.

So while the dirigible balloon pretends to be more immediately useful, especially in case of a war in the near future, it is to the aeroplane that inventors looking for air machines for business and for pleasure on a large scale, are resorting only an expert can hope to press the operation of flying just as an automobile was for several seasons by an experiment, both dangerous, and uncertain.

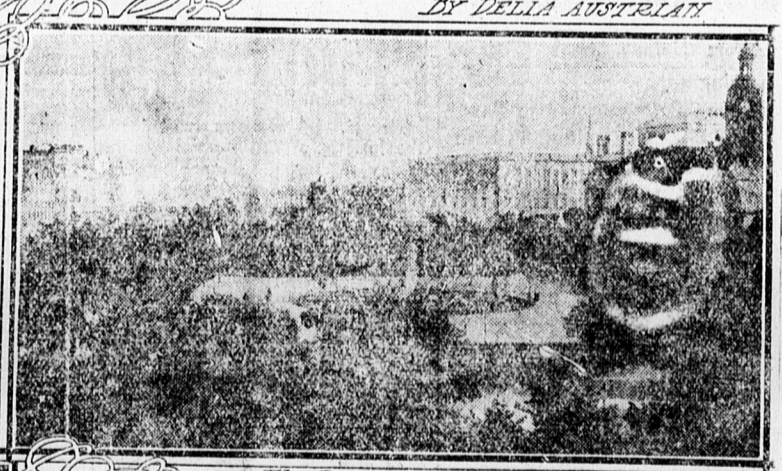
But man can fly—for a number of days so and are doing so every day.



Street Scene

# STOCKHOLM, THE MOST NORTHERN CITY BEAUTIFUL

BY DELLA AUSTRALAN



The Royal Gardens

**S**TOCKHOLM, the capital of Sweden, is known the world over for its wonderfully beautiful situation on the islands and the shores of Lake Maelar, just where this body of water finds its exit into the Baltic. Approaching the town in the evening during the summer when it is still daylight it seems like a fairy city, especially with its masses of light reflected on the dark surface of the surrounding water. But it is equally lovely to catch a first glimpse of its buildings when the heavy mists of morning are being scattered and the early sunshine falls upon the rows of houses and palaces. This very charm of position has presented many difficulties in making Stockholm an attractive city. The roads were often steep and crooked and they had to be levelled and straightened. Great rocks were blasted to make room for the houses as is shown by the buildings which often stick out on the edges. Beautiful as is the lake, which divides the city into a number of islands, it has necessitated that these be joined to the mainland. The bridges are made of handsome granite and some of them are decorated with fine carvings. Hundreds of old buildings and residences had to be destroyed to give way to modern structures.

Some of the old streets are so narrow and steep, it was found impossible to make them over; where it could be done and when new streets were planned they were laid out as broad boulevards. The streets are well kept and this is especially difficult on the lake front where much of the loading of cargoes is done. Though the houses are often humble, rarely pretentious, they suggest little of the poverty on the one hand and extravagance on the other, which is so characteristic of some of the large cities of Europe and America. Most of the families live in apartments, usually occupying a floor by themselves. The privilege of an entire house is restricted to families of great wealth, though many have small attractive summer homes on the lake.



The Gotha Canal

The government buildings are spacious, many exceedingly beautiful. The most noteworthy, but one of the simplest of the public buildings, is the Royal Palace, built in the seventeenth century and little remodelled since then. It is beautifully situated at the head of the lake and its chief approach is from the Lyons Hill, opposite the North Bridge. The exterior is simple, almost homely; it is made of sandstone and is painted yellow. The Crown Prince and Princess occupy one portion of the palace; the King and Queen the rest. The apartments of the Crown Prince and Princess are simple, the most attractive room being her workroom, which is filled with books, pictures and casts she herself has modelled. The most valuable of the furnishings is a collection they brought from the Orient. Above stairs is a large billiard room of the Crown Prince, filled with trophies of the hunt. There are hundreds of deer heads, bears, moose and crocodiles.

The private rooms of the King and Queen are interesting, because they contain rare silver given to their majesties when they celebrated their silver wedding. Though the state apartments are spacious and well furnished, they are without show and ostentation. On the west side of Helgeandsholmen are two

handsome new buildings of granite, admired for their size and splendid architecture. One is the National Diet and the other the National Bank. These buildings show the wonderful strides Swedish architecture has made during the last two decades. It has developed both in the artistic conception of the buildings and in the costliness and solidity of the materials used. T. G. Clason and P. Bohner are two of the foremost Swedish architects and have few rivals in Europe. Both in this monumental building and in the Dunsjovska Clason's work is unusually individual and artistic.

Bohner tries to find new and unusual forms to make them serviceable and still beautiful. The immense Nordiska Bank, his original and beautiful central post office, and the building called the Electric Works represent new ambitions and a modern school of architecture. Of course, there are more or less unattractive public buildings in the capital, as in all the large European cities, but these help to contrast and to emphasize the charms and loveliness of the more modern structures.

On the other side of the lake is the National Museum, one of the handsomest and most interesting buildings in Stockholm. The splendid building was designed by a well-known German architect. It is in the Renaissance style, with Venetian windows. The portal is adorned with six medallion reliefs of famous Swedish sculptors and artists, including Ehrenstrahl, the painter; Nicholas Tessin, the architect; and Linnaeus, the botanist. The vestibule is adorned with two bronzes representing industrial art. The first floor is given over to a complete historical collection of primitive tools, pottery, jewelry and coins. Above stairs is a large collection of paintings. The most interesting are those of the early Dutch and modern Swedish masters. The most popular of the Dutch school is Rembrandt's gigantic and unfinished canvas, "Claudius Civilis Inciting the Battalions to Combat Against the Romans." It was painted in the sixteenth century, but was not brought to Stockholm until two centuries later. "Lisbet the Little Cook" is one of the finest pictures in the collection. It shows a sweet-looking girl with her arm resting on her head.

The young girl has a charming expression, and the colors are wonderfully beautiful. There are some excellent examples of Frans Hals, Adrian Ostade and van Capelle. Rubens is represented by the Bacchanal and Van Dyck by a beautiful painting of Jerome. The most Swedish school is fine, and includes work of Gustav Cederström and Karl Manslatter, known for his beautiful peasant scenes, with other bronzes. The most attractive are "Swedish Dancing" and "Washing the Stream." The gallery has a large collection of his oil paintings, which show much this artist has accomplished. Furthermore gives credence to the story of how this artist rented a costly room in London without the money to pay it, and in less than a month had painted enough portraits to pay his rent. Bruno Liljefors' studies of birds are equally interesting and worthy. Carl Larsson's six frescoes on the staircase reproduce with fresh and great decorative effect scenes from the history of Swedish art. These belong to the most remarkable in art in May.

Not far from Stockholm begin the woodlands of Sweden, which add so much to the wealth and picturesque quality of the country. Nearly 50 per cent of the country is woodland. There are 900 acres of forest for nearly every hundred inhabitants. The forests are very beautiful; pine, spruce and alder mingle with birch and aspen. Some of the forests belong to private individuals, but the larger part is the property of the state. Although Stockholm is a beautiful and attractive city and beautifully kept, it has accomplished this through hard struggle and great effort. For years the city with Germany took money which the government would like to have spent in beautifying the city.

JOHNNY EXPLAINS

"Johnny," said the teacher, "will you explain to the class what sort of a government we are living under?"

"Yes'm. We are living under a republic."

"Does that differ from the government of England?"

"It does, ma'am."

"In what respects?"

"In England the king never gets tired of his job, but hangs right on to it. In America the president serves for eight years and then gets so mad and tired of that he says to the people: 'Say, now, Poraker and Hale and the rest of you fellers; you can take hold and run the old shebang to suit yourselves—I'm going to quit.'"

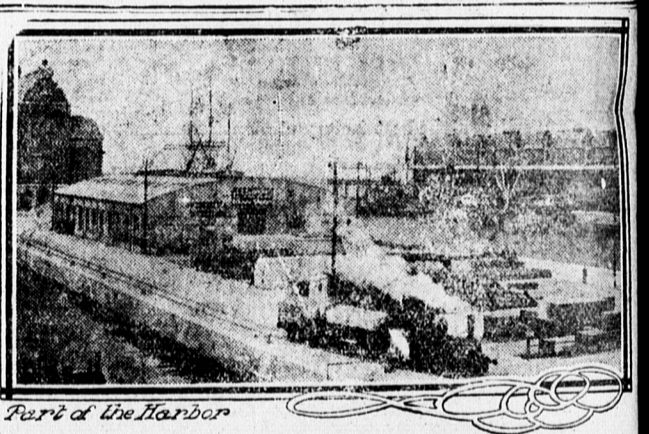
"In England, Johnnie, the king is beloved by his subjects. How is it with the president in America?"

"He is also beloved, ma'am—that is, by all the fellers he can find office for."

"What is the difference in the treatment of the people at large between the two countries?"

"Why, in America, if a man is rich and is called a thief, and in England if a man is poor the police don't wait until the next day to club him."

JOE KERR



Part of the Harbor

wall paintings in European museums. The series of water colors in the same painter show scenes from the artist's home in Dalarne.

But the art in Stockholm is not limited to the galleries and museums. Many of the public schools have, through private munificence, been adorned with handsome paintings. In the Northern Classical School are frescoes by Bruno Liljefors. Prince Eugen and Carl Larsson at Southern Classical School has a fresco by George Pauli, and the Modern School a painting by Oscar Björck.

Nowhere is more care and money expended in making schools beautiful and airy. The grammar schools and high schools are well built and high attention is to the subject of light and air. The Swedish schools have a reputation the world over for the splendid work done in carpentry, wood carving and metal work, and their advanced methods in

woodlands of Sweden, which add so much to the wealth and picturesque quality of the country. Nearly 50 per cent of the country is woodland. There are 900 acres of forest for nearly every hundred inhabitants. The forests are very beautiful; pine, spruce and alder mingle with birch and aspen. Some of the forests belong to private individuals, but the larger part is the property of the state. Although Stockholm is a beautiful and attractive city and beautifully kept, it has accomplished this through hard struggle and great effort. For years the city with Germany took money which the government would like to have spent in beautifying the city.